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10/527,132	03/08/2005	Gilles Poussin	4590-379	9441

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EXAMINER
LENNOX, NATALIE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _22 April 2008_.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-16_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-16_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some *   c) ☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _03/08/2005_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action has been issued in response to the arguments filed on April 22, 2008. Claims 1-16 are pending.

Response to Arguments

1.   Applicant's arguments filed April 22, 2008 have been fully considered but they are not persuasive.

Regarding applicant's arguments with respect to claim 1, applicant argues that "Brown can only compare the recognized identifier with a limited number of reference identifiers, these reference identifiers are defined as a character string that can only include letters and/or figures. More specifically, for each character, the possible amount of identifiers cannot exceed ten figures, or thirty alphabetical characters." Examiner acknowledges applicant's arguments however according to the limitations presented in claim 1 a recognition of patterns is performed for searching "on the basis of a syntax formed of a set of phrases which represent the set of possible paths between a set of words prerecorded during a prior phase." Brown provides a grammar database which contains pre-stored reference identifiers which clearly represent the set of possible paths between a set of words, for example the reference identifier (phrase) "SA2590" is spoken as "ess, a, two, five, nine, zero." Further applicant argued that "the problem solved by the invention of claim 1 is not only recognizing characters but to recognize words," and that "the method described in Brown would not be properly applied to sentences recognizing." Examiner disagrees with the applicant in that as provided

above Brown's invention clearly recognizes words ("nine," "zero," etc.) and

acknowledges applicant's arguments regarding sentence recognition however this is not

a limitation present in claim 1. Regarding applicant's arguments that "it is necessary to

use a syntax to keep only the combinations, paths or possible transitions between the

various words that constitute a sense," examiner acknowledges applicant's arguments

however notes that this is not provided in the claims, claim 1 does provide "recognizing

patters so as to search, on the basis of a syntax formed of a set of phrases which

represent the set of possible paths between a set of words prerecorded during a prior

phase," and nowhere it is specified that the possible paths or transitions between the

various words needs to constitute a sense. As provided above Brown does teach the

use of a grammar (set of rules or principles) and the format in which the reference

identifiers are arranged which represents the syntax.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

3.   Claims 1-3, 7-9, and 13-14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Brown et al. (US Patent 6,141,661) in view of Breton (US

2002/0035471) and Cheng et al. (US 2003/0009341).

        As per claim 1, Brown et al. teach a method of voice recognition of a speech

signal uttered by a speaker with automatic correction, comprising steps of:

recognizing patterns so as to search, on the basis of a syntax formed of a set of phrases which represent the set of possible paths between a set of words prerecorded during a prior phase, for a phrase of said syntax that is the closest to said signal in its compressed form (Col. 3, lines 49-65, wherein the identifiers, such as "AE439J," are to be spoken by the user as a phrase);

generating a new syntax in which the path corresponding to said phrase determined during the earlier recognition step is precluded (Col. 4, lines 23-33), repeating the step of recognizing patterns so as to search, on the basis of the new syntax, for another phrase that is the closest to said stored signal (Col. 4, lines 29-33).

However, Brown does not specifically mention

processing said speech signal and delivering a signal in a compressed form; and storing the signal in its compressed form.

Conversely, Breton teaches

processing said speech signal and delivering a signal in a compressed form (Paragraph [0011] and unit 2 and module 22 from Figs. 1a and 1b).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of processing said speech signal and delivering a signal in a compressed form as taught by Breton for Brown et al.'s method because Breton compresses the spectral coefficients to take account of the behavior of the human auditory system (Paragraph [0011]).

However, neither Brown nor Breton specifically mentions storing the signal in its compressed form. Conversely, Cheng et al. teach storing the signal in its compressed form (Paragraph [0056]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of storing the signal in its compressed form as taught by Cheng et al. for Brown et al.'s method, as modified by Breton, in order for the DSP unit to have access to the compressed signal for it to be able to identify or recognize audible requests, as well as generate and transmit visual or audible responses or instructions (Paragraph [0055]).

As per claim 2, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 1, in which the new syntax is obtained by reorganizing the earlier syntax in such a way as to particularize said path corresponding to the phrase determined during the earlier recognition step, then eliminating this path (Brown's Col. 4, lines 23-33).

As per claim 3, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 2, in which said reorganization is effected by traversing the earlier syntax as a function of the words of said phrase and formation in the course of this traversal of the path specific to said phrase (Brown's Col. 4, lines 23-33).

As per claims 7, 13, and 14, Brown et al., .as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claims 1, 2, and 3, respectively, wherein the processing step comprises:

digitizing and chopping into a string of time frames of said acoustic signal (Breton's Paragraph [0021]),

a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors forming said signal in its compressed form (Breton's Paragraph [0022]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of digitizing and chopping into a string of time frames of said acoustic signal, a phase of parameterization of time frames containing the speech so as to obtain, per frame, a vector of parameters in the frequency domain, the whole set of these parameter vectors forming said signal in its compressed form as taught by Breton for Brown et al.'s method, as modified above, because Breton's method has the goal of achieving a real-time parameterization and shape recognition in noise conditions after a transition-has been identified in the ambient noise so as to make the voice recognition as robust as possible in the presence of strong noise and as sensitive as possible when noise is inexistent or almost inexistent (Paragraph [0019]).

As per claim 8, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 7, wherein the pattern recognition calls upon an algorithm of DTW type (Breton's Paragraph [0102]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the pattern recognition calls upon an algorithm of DTVV type as taught by Breton for Brown et al.'s method, as modified above, because Breton's uses a DTVV type algorithm during a shape-recognition phase in order to compare a series of vectors of parameters coming form the parameterization, corresponding to the acoustic fingerprint of an analyzed command to be recognized with respect to a series of vectors of basic parameters obtained during the learning phase, this series corresponding to the acoustic fingerprint of a basic command (Paragraphs [0101], [0102], and [0013]).

As per claim 9, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 7, wherein the pattern recognition calls upon an algorithm of HMM type (Breton's Paragraph [0013]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the pattern recognition calls upon an algorithm of HMM type as taught by Breton for Brown et al.'s method, as modified above, because Breton's uses an HMM type algorithm during a shape-recognition phase in order to compare a series of vectors of parameters coming form the parameterization, corresponding to the acoustic fingerprint of an analyzed command to

be recognized with respect to a series of vectors of basic parameters obtained during

the learning phase, this series corresponding to the acoustic fingerprint of a basic

command (Paragraphs [0101], [0102], [0012] and [0013]).

4.   Claims 4-6, 10-12, and 15-16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Brown et al. (US Patent 6,141,661) in view of Breton (US

2002/0035471) and Cheng et al. (US 2003/0009341), as applied to claims 1, 2, and 3

above, and further in view of Stevens et al. (US 2002/0138265).

As per claim 4, Brown et al., as modified by Breton and Cheng et al., teach the

method of voice recognition as claimed in claim 1, but they do not specifically mention

wherein the search for a new phrase is repeated systematically to anticipate the

correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the

correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to have used the feature of the search for a new phrase is repeated

systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s

method, as modified above, because by displaying a list of choices for each recognition,

permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 5, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 4, wherein each new phrase recognized is proposed to the speaker on the request thereof (Brown's Col. 4, lines 16-20).

As per claim 6, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 4, wherein the search for a new phrase is halted by validation of a phrase recognized by the speaker (Brown's Col. 4, lines 33-36).

As per claim 10, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 2, but they do not specifically mention wherein the search for a new phrase is repeated systematically to anticipate the correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the search for a new phrase is repeated systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s method, as modified above, because by displaying a list of choices for each recognition, permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 11, Brown et al., as modified by Breton and Cheng et al., teach the method of voice recognition as claimed in claim 3, but they do not specifically mention wherein the search for a new phrase is repeated systematically to anticipate the correction.

However, Stevens et al. teach

the search for a new phrase is repeated systematically to anticipate the correction (Paragraph [0060]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the feature of the search for a new phrase is repeated systematically to anticipate the correction as taught by Stevens et al. for Brown et al.'s method, as modified above, because by displaying a list of choices for each recognition, permits a user to correct a misrecognition by selecting from the list (Paragraph [0008]).

As per claim 12, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claim 5, wherein the search for a new phrase is halted by validation of a phrase recognized by the speaker (Brown's Col. 4, lines 33-36).

As per claims 15 and 16, Brown et al., as modified by Breton, Cheng et al., and Stevens et al., teach the method of voice recognition as claimed in claims 4 and 5, respectively, wherein the processing step comprises:

digitizing and chopping into a string of time frames of said acoustic signal

(Breton's Paragraph [0021]),

a phase of parameterization of time frames containing the speech so as to

obtain, per frame, a vector of parameters in the frequency domain, the whole set of

these parameter vectors forming said signal in its compressed form (Breton's Paragraph

[0022]).

It would have been obvious to one having ordinary skill in the art at the time the

invention was made to have used the feature of digitizing and chopping into a string of

time frames of said acoustic signal, a phase of parameterization of time frames

containing the speech so as to obtain, per frame, a vector of parameters in the

frequency domain, the whole set of these parameter vectors forming said signal in its

compressed form as taught by Breton for Brown et al.'s method, as modified above,

because Breton's method has the goal of achieving a real-time parameterization and

shape recognition in noise conditions after a transition has been identified in the

ambient noise so as to make the voice recognition as robust as possible in the presence

of strong noise and as sensitive as possible when noise is inexistent or almost

inexistent (Paragraph [0019]).

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to NATALIE LENNOX whose telephone number is

(571)270-1649. The examiner can normally be reached on Monday to Friday 9:30 am -

7 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571)272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NL   08/03/2008

/Michael N. Opsasnick/
Primary Examiner, Art Unit 2626
8/3/08